

THE ORNAMENTED LADDER

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1. Introductory topics

1.1. GENERAL INTRODUCTION

All praise is due to Allah, the One who manifested the conclusions of thought for those possessed of reason, and cleared from the skies of their intellects every cloud of ignorance, until the suns of knowledge appeared to them, and they saw their veiled beauties revealed.

We praise Him, the Majestic, for favoring us with the blessings of belief and submission, the One who distinguished us with the best of messengers and the best one to attain the highest stations: Muhammad, the best of those who are followed, the Arab, the Hashimi, the chosen one. May Allah bless him as long as intellects plunge into stormy oceans of meanings, along with his guiding folk and companions, who were like the stars in guidance.

Logic is to the mind what grammar is to the tongue: it protects reflection from the straying of error and unveils precise understanding.

These are principles and rules of logic that I have named *The Ornamented Ladder*, by which the sky of the discipline of logic may be scaled.

I hope from Allah that this be purely for His sake, without any deficiency, and that it benefits the beginner by being a means for him to reach the longer works of logic.

On the permissibility of studying logic

Scholarly disagreement regarding the permissibility of studying logic revolves around three positions: Ibn al-Salah and Nawawi deemed it unlawful, others said that it should be studied, and the widely-accepted and correct position is that it is permissible for someone

of sound intellect who is engaged with the sunna and the Quran so that he may use it to reach correct conclusions.

1.2.KINDS OF CREATED KNOWLEDGE

Perceiving something simple is termed *apprehension*. Perceiving a predication is termed *affirmation*. The former is mentioned first when organizing because it comes first naturally.

Deduced knowledge is knowledge that needs reflection; its opposite is *immediate knowledge*.

That through which one reaches apprehension is termed *definition*. That through which one reaches affirmation is called is termed *proof*.

1.3.KINDS OF COINED INDICATIONS

A word's indicating what corresponds to it is termed a *corresponding indication*, its indicating part of what corresponds to it is termed an *inclusive indication*, and its indicating what is implied is termed an *implicative indication*, provided it is logically implied.

1.4.LANGUAGE

Used words are either *composite* or *simple*. A composite word is that whose part indicates part of its meaning; a simple word is the opposite.

Simple words are always one of two kinds: either *universal* or *singular*. That which conveys commonness is universal; its opposite is singular.

A universal word is termed an *essential universal* if it is included within the essence and an accidental *universal* if it is external to the essence.

The universals are five: genus, specific difference, accident, species, and property.

The genus is three kinds: remote genus, proximate genus, and middle genus.

1.5.WORD-MEANING RELATIONS

The relations of words to meanings are five: equivalent, varying, difference, equivocation, and synonymy.

Words are either demands or reports. A demand is termed a command when accompanied by superiority, an entreaty when accompanied by inferiority, and a request when accompanied by equality.

1.6.AN EXPLANATION OF COLLECTIVITY, UNIVERSALITY, PART, AND PARTICULARITY

A collective judgment is to judge regarding a group, like “These did not happen.”

A universal judgment is to judge regarding every singular instance.

A particular judgment is to judge regarding some singular instances.

Knowledge of the part is plain.

2. Definitions

There are three kinds of definitions: essential definition, definition by property, and definition by name. Essential definition requires a genus and a specific difference. Definition by property requires a genus and a property. Deficient essential definition requires a specific difference or with a distant genus. Deficient definition by property requires either a property alone or along with a distant genus. Definition by name is to substitute a word for a better-understood synonym.

Each must be inclusive, exclusive, clearer—not obscurer or equivalent—not figurative (unless there is an indication), not circular, and not with an equivocal word (unless there is an indication).

According to the logicians, it is unacceptable to mention judgments in definitions and to mention “or” in essential definitions (although this is acceptable when defining by property).

3. Propositions

Whatever may intrinsically be true is termed a proposition or a report. Propositions are of two kinds: conditional and categorical. Categorical propositions are either universal or singular. Universal propositions are either defined or undefined.

Definition is either universal or particular. There are four kinds of definition: either with “every”, or with “some”, or with “no”, or with “not every,” and the like. Each of these is either affirmative or negative. There are thus eight kinds of definition.

The first part of a categorical proposition is the subject and the second is the predicate.

If the object of judgment is the connection between two propositions, then it is a conditional proposition. Conditional propositions are either conjunctive or disjunctive. Its parts are the antecedent and the consequent.

A conjunctive proposition is what establishes the coexistence of its two parts. A disjunctive proposition what establishes repulsion between them. It has three kinds: preventive of co-presence, preventive of co-absence, or both. The latter is the strictly disjunctive proposition and it is the most specific.

3.1.CONTRADICTION

Contradiction is for two propositions to differ in quality such that only one is true. If it is singular or undefined, it is contradicted by changing the quality. If it is defined, then it is contradicted by the opposite definition: if it is affirmative and universal, its contradiction is negative and singular, and if it is negative and universal, its contradiction is affirmative and singular.

3.2. CONVERSION

Conversion is to switch the two parts of a proposition while maintaining truth, quality, and quantity. An exception is the quantity of the affirmative universal, which converts to the affirmative singular. Conversion is possible for every proposition except one that contains the two base attributes. The negative undefined proposition is also considered to have the two base qualities because it is effectively singular.

Conversion applies to what is naturally ordered, not to what is ordered by placement.

4. Reasoning

Reasoning is the ordering of propositions such that they intrinsically lead to another proposition. There are two kinds of syllogism.

4.1. THE CONNECTIVE SYLLOGISM

The first is termed the *connective syllogism*. It is that which effectively indicates the conclusion. It is specific to categorical propositions.

To form the syllogism, first properly gather its premises, then arrange the premises, being careful to distinguish correct premises from incorrect ones, for the conclusion of the premises is in accordance with the premises.

The minor premise must be included in the major premise. The one with the minor term is the minor premise; the one with the major term is the major premise. The middle term is discarded when concluding.

4.2. THE FIGURES OF THE SYLLOGISM

The syllogistic figure is the form of the two premises of a syllogism without considering the quantifiers; these are indicated by syllogistic mode. Premises have four figures according to the middle term. Predicating the middle term of the minor term and predicating the major term of the middle term is called the first figure. Predicating the middle term of both is called the second figure. Predicating both of the middle term is called the third figure. The opposite of the first is called the fourth figure. They are mentioned here in order of perfection. All other arrangements are do not adequately conclude.

The condition of the first figure is that its minor term be affirmative and its major term be universal. The condition of the second figure that the premises differ in quality and that the major term be universal. The condition of the third figure is that the minor term of

both be affirmative and that one of them be universal. The condition of the fourth figure is that the two base properties not coexist except in one clear case: when the minor term of each is affirmative and singular and the major term of each is negative and universal.

The first figure, like the second, adequately concludes in four modes, the third figure in six, and the fourth in five. Others do not adequately conclude.

The conclusion of a syllogism follows the basest premise.

These figures are specific to the categorical proposition and do not apply to the conditional. Some premises or the conclusion are sometimes omitted when they are known. The premises must end at something immediately known because were this not the case, it would imply circularity or infinite regress.

4.3. THE CORRECTIVE SYLLOGISM

The second kind of syllogism is the *corrective syllogism*, also known as the *conditional syllogism*. It is what indicates the conclusion or its opposite *actually*, not *effectively*.

If the conditional syllogism is conjunctive, then the affirmation of the antecedent causes the affirmation of the consequent, and the negation of the consequent causes the negation of the antecedent, but not vice-versa.

If the conditional syllogism is disjunctive, then the affirmation of one extreme causes the negation of the other, and vice-versa. This applies to the strictly disjunctive proposition. If it prevents co-presence, then the affirmation of one causes the negation of the other, but not vice-versa. If it prevents co-absence, then it is the opposite of the above

4.4. SUPPLEMENTARY TOPICS

A *compound syllogism* is composed of multiple syllogisms, such that each conclusion becomes a premise that is composed with another premise to lead to another conclusion, and so on. It does not matter whether premises are connected to or separated from their intermediate conclusions.

Adducing a singular as proof for a universal, is termed *induction*. Its opposite is called *logical deduction*. The latter is what has been explained above, so take care to distinguish between the two.

Using a singular is to predicate something of another singular is termed *analogy*.

Induction and analogy do not afford certainty in their conclusions.

4.5. TYPES OF PROOF

Proof is either *scriptural* or *rational*. *Rational proof* is of five kinds: rhetoric, poetics, demonstration, dialectics, and sophistry. The best of these is demonstration that is composed of certain premises, meaning premises that are self-evident, internal sensations, empirical, mass-transmitted, probabilistic, or derived from physical sensation.

There is scholarly disagreement on how knowledge of the premises indicates knowledge of the conclusion. Some say rationally, others say conventionally, others say causally, and others say necessarily. The first is the strongest position.

5. Conclusion

Fallacies in demonstration are either in matter or form.

Fallacies in matter are either in wording or meaning. Examples of fallacies in wording are equivocation and introducing synonymy with univocal terms. Examples of fallacies in meaning are confusing a false premise with a true one (such as treating a property as essential), using the conclusion as one of the premises, giving the genus the ruling of the species, and treating a non-certain premise as a certain one.

Fallacies in form are like violating the figures or and violating one of the conditions of adequate conclusion.

This marks the completion of the essentials of the noble discipline of logic that I intended to write about. It was versified by the worthless slave in need of the mercy of His tremendous and powerful master, 'Abd al-Rahman al-Akhdari, who hopes for the forgiveness of his ever-gracious Lord, a forgiveness that encompasses all sins and removes the veil from the heart. He also hopes that He reward us with the highest gardens, for He is the most generous of those who are generous.

Be, dear brother, forgiving to this novice, and sincere in correcting mistakes. If you do correct any mistakes, correct them carefully, not hastily, for how many a person there is who spoils what is correct because of his faulty reasoning. If someone is not sincere, tell them, that a mere beginner has full right to be excused, that it is praiseworthy to excuse a child of 18 years, especially in the tenth century, which is full of ignorance, corruption, and strife.

Eternal peace and blessings be on the Messenger of Allah, the best of those who guided, along with his folk and trustworthy Companions.